PARADOX
SECURITY SYSTEMS

IP Monitoring Receiver (IPR512)

The Paradox IP Monitoring Receiver (IPR512) allows up to 512 supervised Paradox control panels with an IP module (IP100) to report system events over an IP network. These events are then transmitted to the automation software of the monitoring station. All this is achieved through proprietary encrypted communication between the control panel, the IP module (IP100) and the IP Monitoring Receiver. The IP Monitoring Receiver also supervises all 512 connections (control panel presence and IP communication) at a configured rate.

512 Supervised Paradox IP Modules

The IPR512 provides high-speed supervision for up to 512 Paradox control panels using an IP Module (IP100). Each IP100 Internet Module can report multiple partitions.

Redundant ISP (WAN1/WAN2)

2 Ethernet ports (WAN1 and WAN2) to receive events through two different Internet Service Providers (ISPs).

2 Serial Ports (COM1/COM2)

COM1: connects to Automation Software (used by monitoring station) by emulating Radionics 6500 protocol.
COM2: connects to a printer or a PC with a telnet program to view/print events in plain text format.

Integrated Web Page (LAN)

LAN port to configure IP Receiver via web page interface used to view, edit and delete IP100 modules, edit polling profiles, configure receiver, view receiver troubles, and program special event report codes.

Data Backup on External Memory Card

The receiver has a built-in flash memory card slot for data backup (programmable intervals) and recovery. This allows fast and easy substitution of receiver units in crash recovery situations. Uses external SD, SD/HC, or MMC memory cards.

End-to-End Supervision

The entire communication line (control panel, internet module, receiver and automation software) is fully supervised and can be reported due to Paradox's proprietary encrypted communication.

Programmable Polling Time and Grace Period

Up to 32 polling profiles can be created per receiver with a programmable polling time and grace period (seconds, minutes, or hours). If the receiver does not receive a presence message from the internet module within the polling time, the receiver will then wait until the grace period elapses before reporting a supervision loss to the monitoring station's Automation Software.

Firmware Upgradeable

The receiver is firmware upgradeable in less than 90 seconds and features automatic update verification.

Other Features

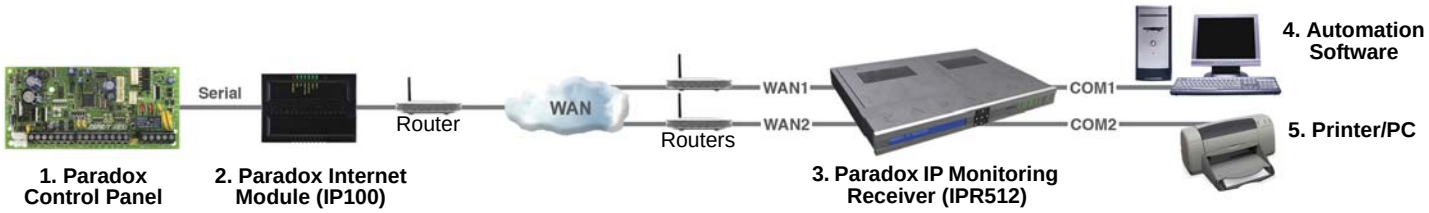
- Supports CID and SIA reporting formats
- 256-bit AES data encryption
- 2-line, 40-character LCD with a 6-button interface to view troubles, backup data to/from memory card, set IP Address and Subnet Mask for LAN port, and set LCD language, backlight and contrast, and set time and date
- Supports 19" rack mounting (1U) or desktop installation
- Output relay (triggered by selected events)
- Input relay (sends selected events when triggered)
- Automatic date and time synchronization via Network Time Protocol (NTP)
- Robust and durable construction
- Standard 110/220Vac power supply
- Extremely low noise and low power consumption (less than 10W)
- Secure private operating system

512 Supervised IP Modules with Automatic Registration

The IPR512 provides high-speed supervision for up to 512 Paradox control panels using an IP100 Paradox Internet Module. Each IP100 Internet Module can report multiple partitions. For example, the receiver can support 512 Digiplex EVO control panels, each reporting 8 partitions through an IP100 Internet Module. Therefore the receiver can supervise all 4096 accounts (512 x 8). No monitoring station operator action is required to register an IP100 module. The installer registers the IP100 module by entering the account #, IP Address, Port #, and polling profile in the control panel. The installer then initiates communication with the receiver and the IP100 module will be created automatically in the receiver.

How Does It Work?

The following is a basic overview of the event reporting transmission path (control panel to automation software).



1. Due to its proprietary serial port communication, the control panel can report through a landline and an IP network.
2. The IP100 Internet Module connected on the serial port of the control panel encrypts the reported events using 256-bit AES. The encrypted events are then sent through the internet to WAN port of the receiver defined by the IP address set in the control panel. The entire process takes only a few seconds.
3. The reported events are decrypted by the receiver, which supports both CID and SIA formats. The receiver provides a redundancy option with its two on-board WAN ports, which enables it to receive events through two different Internet Service Providers (ISPs).
4. Reported events are converted to the Radionics 6500 protocol (Bosch D6600) and sent to the Automation Software through COM1.
5. Reported events are also sent in plain text format though COM2, which can be printed or viewed using a telnet program, such as HyperTerminal.

Firmware Upgradeable

The receiver is firmware upgradeable and features automatic update verification. The receiver will periodically check online if there are any new updates. If a new update is available it will appear in the Web Page Interface. Once you confirm the update, the receiver will be up and running with the new update in less than 90 seconds.

Fail Recovery Features

The receiver offers many features to ensure that the report codes are sent to the automation software and to ensure fast crash recovery.

Redundant ISP (Internet Service Provider)

Each receiver features two WAN ports each with a programmable IP address allowing to receive events through two different Internet Service Providers (ISP). Each control panel can be programmed to report to both WAN ports. If there is a problem with the ISP network, reports can still be reported through another ISP.

Memory Card

The receiver has a built-in flash memory card slot. Insert an external SD, SD/HC, or MMC memory card for data backup and recovery. Stored data includes the unit's configuration settings and all account information. Data backups occur at programmable intervals or can be done manually through the LCD and 6-Button Interface. The last 10 backups are kept on the memory card. This allows fast and easy substitution of receiver units in crash recovery situations. Simply remove the memory card, insert the card into another receiver, load data from the memory card, and you're up and running in just a few minutes. 1G SD Memory card included.

Receiver Secondary Serial Port

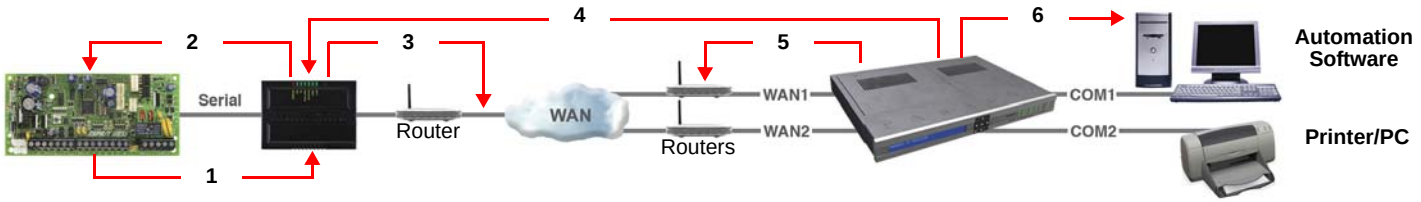
Reported events are also sent in plain text format though COM2, which can be printed or viewed using a telnet program, such as HyperTerminal. Gender changer included.

Control Panel Isolated Serial Port

The IP100 Internet Module is connected to the Paradox control panel's isolated serial port. If the control panel's AUX output fails (short/overload), the IP100 module will continue to operate.

End-to-End Supervision

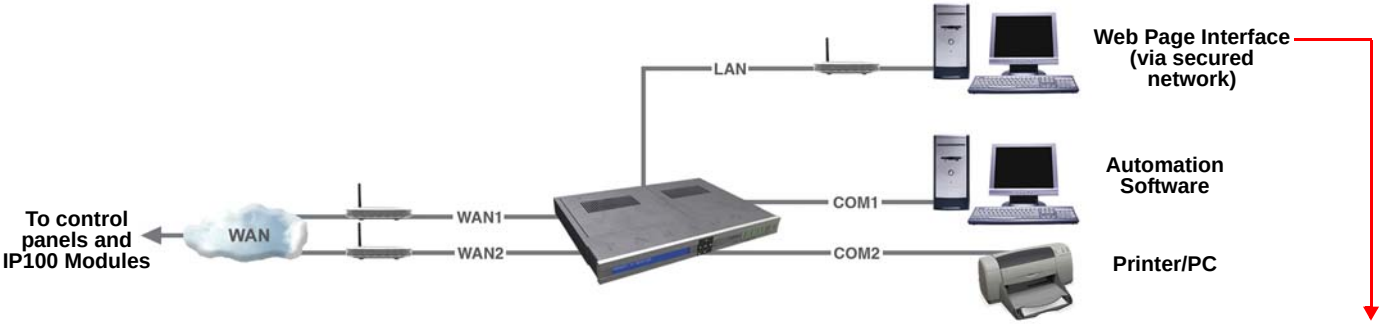
The following describes how end-to-end supervision is achieved with Paradox's proprietary communication between control panel, internet module and receiver.



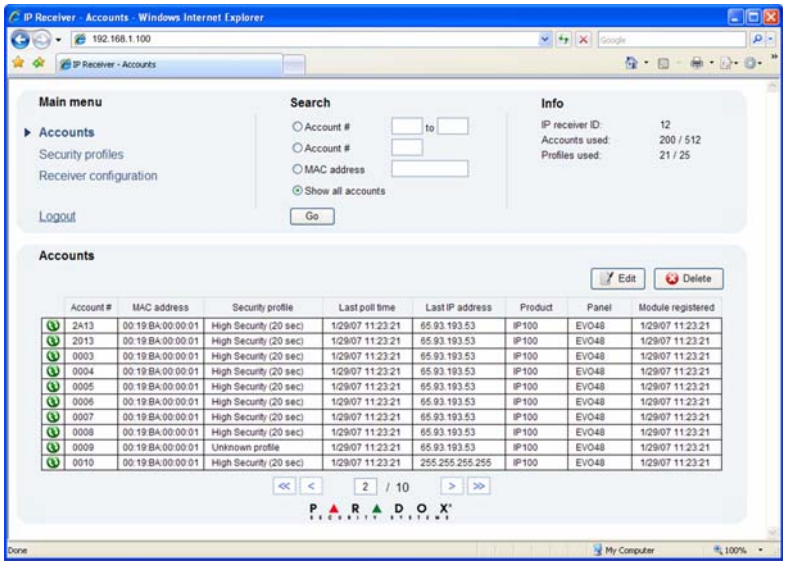
1. The control panel supervises the presence of the IP100 Internet Module. If communication is lost, the control panel will generate a trouble and can report the trouble through a landline, GSM, or SMS.
2. The IP100 supervises the presence of the control panel. If communication is lost, the IP100 will report the trouble to the receiver and can send an e-mail.
3. The IP100 also supervises the ethernet connection. If connection is lost, the control panel will generate a trouble and can report the trouble through landline, GSM or SMS.
4. The receiver supervises the presence of the 512 assigned IP100 modules. Up to 32 polling profiles can be created per receiver with a programmable polling time (seconds, minutes, or hours). These profiles are then assigned to each of the IP100 modules during registration. The IP100 will send a presence message (~100 bytes) at intervals defined by the polling profile. To avoid false alarms, the receiver also features a programmable grace period per polling profile. If the receiver does not receive the presence message at the required interval, the receiver will wait until the programmed grace period elapses before reporting a communication loss.
5. The receiver supervises the ethernet (WAN) connections. If connection is lost, the receiver displays a trouble and then can report it to the automation software.
6. The receiver supervises communication with the automation software using the ACK/NACK protocol. If communication is lost, the receiver will save all incoming events (up to 10,000) on its memory card. When communication is restored, the receiver will send the saved events to the automation software. The receiver will also display a trouble and can also activate its output relay (e.g. turn on a warning light).

Web Page Interface

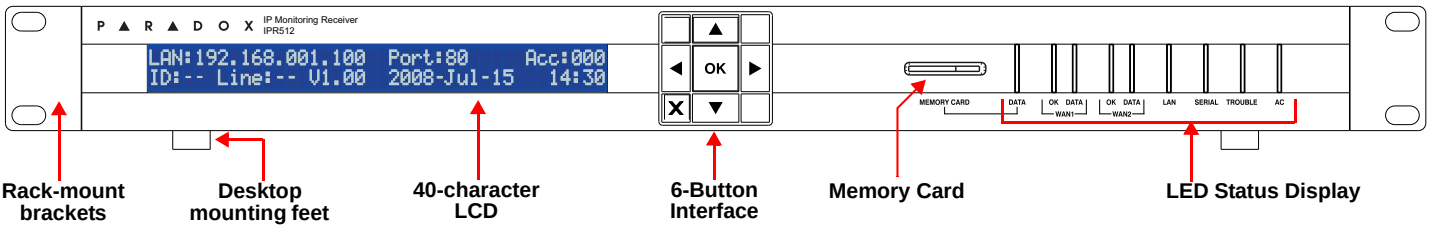
A web page is integrated into the IP Monitoring Receiver (IPR512) and can be accessed through its LAN port using an internet browser.



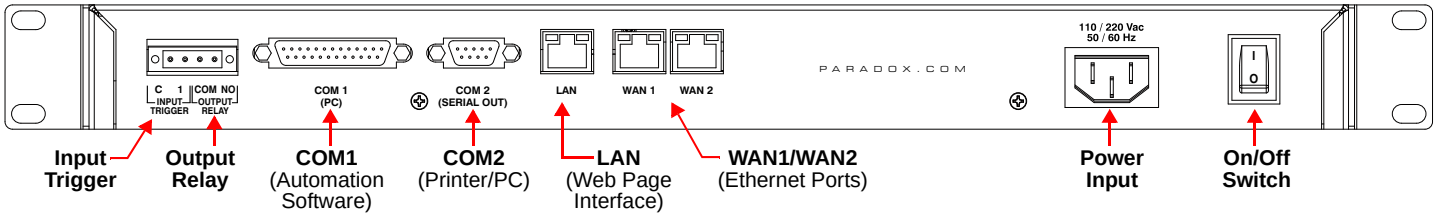
- Configure the receiver (WAN1, WAN2, LAN, COM1, COM2, ID, Line, and Date/Time)
- Register the unit and upgrade its firmware
- View, edit and delete up to 512 registered IP100 modules
- Setup 32 polling profiles (poll time and grace period)
- View receiver status including any occurring troubles
- Define which account-related events or receiver-related events will be reported to the home automation software and/or will activate the receiver's output relay
- View and restore up to 50 deleted IP100 modules
- Set time and date manually with optional daylight savings time or select Network Time Protocol (NTP) for automatic time and date synchronization



Front Panel Overview



Back Panel Overview



Input Trigger
Used to generate an event that can be reported to the automation software and/or activate the output relay.

Output Relay
Used to activate an external device, such as a warning light, when an account-related event (i.e IP Module Supervision Loss) or receiver-related event (i.e. communication trouble) occurs. The PGM will turn off when the event is restored or when acknowledged on the LCD. Event selection is programmed via the receiver's internal web page.

COM1 (Automation Software)
Dedicated port for automation software. This output can be supervised through the ACK/NACK protocol. The receiver is compatible with any automation software compatible with the Radionics 6500 standard (Bosch D6600). 12-foot DB25 to DB9 cable included.

COM2 (Printer/PC)
Reported events are also sent in plain text format though COM2, which can be printed or viewed using a telnet program, such as HyperTerminal. Gender changer included.

LAN (Web Page Interface)
A web page interface is integrated into the IP Monitoring Receiver (IPR512) and can be accessed through its LAN port ("Web Page Interface" on page 3).

WAN1 / WAN2 (ISP)
Each receiver features two WAN ports each with a programmable IP address allowing to receive events through two different Internet Service Providers (ISPs).

Power Input
Built-in 5A power supply using standard 110/220Vac (50/60Hz) power input. Low power consumption (less than 10W) and noiseless operation. 6-foot AC power cord included with choice of plug (Australia, China, Europe, North America, and UK).